

Road traffic noise in developing countries.

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Abstract

With increasing interest in recent years about the overall quality of the environment, the transportation activities that are considered to be a major source of environmental pollution have come under close scrutiny. Government agencies, engineers, environmentalists, and the general public are aware of and sensitive to the impact of transportation activities that might degrade the quality of environment.

Road traffic causes noise pollution, air pollution, water pollution, vibrations, dust, visual intrusion. However, road traffic noise has been used as a surrogate for all the aforementioned environmental impacts. In other words in order that environmental effects may at least be considered at a base level, it is possible to use road traffic noise as an indicator for other possible environmental impacts.

The goal of this research is to develop procedures for the assessment of road traffic noise in developing countries that are based on the use of a simple, inexpensive noise level meter that could be afforded and used in developing countries. A great deal of work regarding noise assessment and prediction has already been done in developed countries whereas little could be done in developing countries particularly in setting the standard of noise levels for different land uses and public health and welfare. The procedures that have been developed involve manual calculation to encourage those who do not have mainframe computer facilities.

The analysis has shown poor correlation between noise indicators, such as L_{10} , and L_{eq} calculated from the data obtained in India and in the Kingdom of Saudi Arabia, and values obtained using existing noise prediction models from developed nations since these models were developed for the traffic conditions of their own countries. Because of these limitations, five noise prediction models have been developed that could be used for predicting the noise levels in developing countries like India and Saudi Arabia.